

REMARKS

Claims 1-14 are now in the application. No claims have been amended by this Response. No new matter has been added.

Claims 1-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,712,336 to Gareiss et al. in view of GB 2,324,797 to Davis et al.

Claim 1 recites, among other features, from 0.01 to 50% by weight of a highly branched or hyperbranched polycarbonate. As appreciated by the Examiner, Gareiss fails to teach corresponding features. However, the Office Action asserts that a skilled art would have been motivated to combine a hyperbranched polymer containing carbonate linkages, as suggested in Davis, with the flame resistant molding compositions of Gareiss.

Prior to addressing the rejection in the Office Action, Applicants provide a brief overview over the remarkable properties of the claimed thermoplastic molding compositions. As noted at the bottom of page 27, the claimed thermoplastic molding compositions combine good flowability with good mechanical properties. By way of non-limiting example, Table 3 at page 32 demonstrates the dramatic improvement of flowability even by adding small amounts of highly branched or hyperbranched polycarbonate. Specifically, the addition of 1 percent of component B/2 in example 3 nearly doubles the melt volume rate (MVR) from 26.4 to 47.6 compared to example 1C. Similarly, the MVR of example 5 increases from 108 to 191 between example 2C and example 5.

A skilled artisan would not have had a reasonable expectation of success that adding a hyperbranched polymer according to Davis to the thermoplastic molding compositions of Gareiss would result in such dramatic increase of the MVR. At best, based on the rules of mixture, the skilled artisan would have expected a moderate reduction in viscosity of the thermoplastic molding compositions within a linear range.

As set forth in MPEP 716.02 (a) II, the superiority of a property shared with the related art is evidence of nonobviousness. In particular, "[e]vidence of unobvious or unexpected

advantageous properties, such as superiority in a property the claimed compound shares with the prior art, can rebut prima facie obviousness. 'Evidence that a compound is unexpectedly superior in one of a spectrum of common properties . . . can be enough to rebut a prima facie case of obviousness.' No set number of examples of superiority is required." *In re Chapp*, 816 F.2d 643, 646, 2 USPQ2d 1437, 1439 (Fed. Cir. 1987).

Moreover, the Office Action fails to provide a proper rationale or motivation as to why a skilled artisan would have combined Gareiss and Davis to arrive at the claimed subject matter. For example, the statement at page 16, last paragraph, of Davis that reactive plasticizers are used in thermoplastic compositions, does not clearly identify the hyperbranched polycarbonates of Davis, but is generally directed at "[i]n many of the hyperbranched polymers of the invention." The skilled artisan is not explicitly directed at polycarbonates, but is left to wonder whether Davis might be referring to hyperbranched polymers containing linkages selected from urea, urethane, ester or amine groups, which are likewise suggested in Davis.

What is more, Davis only refers to thermoplastic compositions, to which these unidentified hyperbranched polymers are added, but fails to explicitly suggest thermoplastic polyesters, as claimed. A skilled artisan, however, would assume that plasticizers are additives for PVC materials or maybe cellulose, as evidenced by the enclosed excerpt from the Additives for Plastics Handbook, pages 203-205, Elsevier © 1996.

By contrast, additives for thermoplastic polyesters are generally process modifiers and processing aids. See enclosed excerpt, pages 209-211. Thus, a skilled artisan would assume that Davis suggests that hyperbranched polymers are added as reactive plasticizers to PVC materials, but not to thermoplastic polyesters.

Claim 5 recites, among other features, an intermolecular reaction of the condensates (K) to give a highly functional, highly branched, or highly functional, hyperbranched polycarbonate, where the quantitative proportion of the OH groups to the carbonates in the reaction mixture is selected in such a way that the condensates (K) have an average of either one carbonate group and more than one OH group or one OH group and more than one carbonate group.

As appreciated by the Examiner, the Davis fails to suggest a method for preparing polycarbonates, as claimed. However, the Office Action asserts, at page 4, lines 4-8, that the product claimed is the same as the product suggested in Davis. Applicants respectfully disagree with this assertion.

According to the process of Davis, hyperbranched polycarbonates are produced by reacting hydroxycarboxylic acids or triols with carbonyldiimidazole as a phosgene-analog reactive component.

Davis further suggests that the thus produced imidazolides are reacted afterwards via intermolecular reaction to polycarbonates containing imidazolides as end groups. A highly or hyperbranched produced in accordance with claim 5, however, does not contain such imidazolides as end groups and is, for at least this reason, structurally distinct from the hyperbranched polymers of Davis.

Moreover, it is a distinct disadvantage of the reaction in Davis that the terminal groups are always of the imidazolid-type, which are instable and hydrolyze in the presence of water or that releases imidazole by heating the hyperbranched polymers. See example 8, last line, of Davis.

In addition, after the first process step of Davis, the liberated imidazole has to be removed from the reaction mixture, which causes additionally expenditures.

What is more, the processability of the hyperbranched polymers of Davis produced under those conditions is inferior and may cause instability in the molding composition preparation due to massive fogging and presence of undesired compounds in the mold, which manifest themselves as mold deposits.

Last but not least, Davis suggests, at example 5, that the hyperbranched polymers having carbonate linkages are rubberlike, which are not suitable for the preparation of the instantly claimed thermoplastic molding compositions.

Claims 2-14 are in condition for allowance for at least their respective dependence on an allowable claim 1, as well as for the additionally patentable subject matter that each of these claims recites.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 12, and 13 of copending Application No. 10/587,998 in view of Davis.

Applicants filed a Terminal Disclaimer in copending Application No. 10/587,998 over this application on November 16, 2010. Withdrawal of this provisional rejection is respectfully requested.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 and 13-21 of copending Application No. 11/576,646. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-10 and 13-21 of copending application 11/576,646.

Applicants filed a Terminal Disclaimer in copending Application No. 11/576,646 over this application on November 5, 2010 and a statement of common ownership on July 15, 2010. Withdrawal of this provisional rejection is respectfully requested.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 and 15-21 of copending Application No. 11/577,009. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-10 and 15-21 of copending application 11/577,009.

Applicants filed a Terminal Disclaimer in copending Application No. 11/577,009 over this application on September 13, 2010. Withdrawal of this provisional rejection is respectfully requested.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No.

11/577,587. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-20 of copending application 11/577,587.

The US Patent and Trademark Office mailed a Notice of Abandonment in application No. 11/577,587 on October 28, 2009. Thus, the above rejection over application No. 11/577,587 is moot.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 11/577,590. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-21 of copending application 11/577,590.

Applicants respectfully submit that claim 1 of copending application 11/577,590 recites a polyamide, whereas the instant claims recite a polyester. Polyesters and polyamides are distinct chemical molecules with different chemical and physical properties. It is, therefore, unclear what overlap in scope the Office Action is referring to at page 11, line 6.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 11/632,711.

Applicants filed a Terminal Disclaimer in copending Application No. 11/632,711 over this application on September 21, 2010.

The Office Action asserts, at the bottom of page 12, that claims 1-14 are not patentably distinct from claims 1-20 of copending application 11/623,711.

Applicants respectfully submit that application No. 11/623,711, now US Patent No. 7,456,350, is assigned to Machtone Corp. and not commonly assigned with this application. Further, claim 1 of application No. 11/623,711 recites a drum for an elongated tool member. It is unclear why the claims of application No. 11/623,711 are considered not to be patentably distinct from the instant claims.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 11/659,506. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-20 of copending application 11/659,506.

Applicants filed a Terminal Disclaimer in copending Application No. 11/659,506 over this application on September 21, 2010 and a statement of common ownership on July 26, 2010.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 11/659,625. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-13 of copending application 11/659,625.

Applicants filed a Terminal Disclaimer in copending Application No. 11/659,625 over this application on September 21, 2010 and a statement of common ownership on August 16, 2010.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 11/813,638. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-25 of copending application 11/813,638.

The US Patent and Trademark Office mailed a Notice of Abandonment in application No. 11/813,638 on September 4, 2009. Thus, the above rejection over application No. 11/813,638 is moot.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 14-25 of copending Application No. 11/813,833. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 14-25 of copending application 11/813,833. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 14-25 of copending application 11/813,833.

Applicants filed a Terminal Disclaimer in copending Application No. 11/813,833 over this application on September 21, 2010.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 11/996,489. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-20 of copending application 11/996,489.

Applicants respectfully request that the provisional double-patenting rejection be withdrawn in this earlier filed application and converted into a double-patenting rejection in copending application 11/996,489.

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 11/815,238. Further, the Office Action asserts that claims 1-14 are not patentably distinct from claims 1-20 of copending application 11/815,238.

Applicants respectfully request that the provisional double-patenting rejection be withdrawn in this earlier filed application and converted into a double-patenting rejection in copending application 11/815,238.

In view of the above, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 12810-00334-USI from which the undersigned is authorized to draw.

Dated: December 28, 2010

Respectfully submitted,

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